

## Cold mounting resins

Mainly intended for the metallography research sector, the LAM PLAN range of cold mounting resins offers many technical and economic advantages.

The cold mounting resins are the solution for samples which do not withstand high pressure or temperature. In addition, they allow responding in a simple and efficient way to timely needs by circumventing the investment of a hot mounting press. You can achieve a large quantity of samples simultaneously while adjusting precisely the volume of mounting material and shape of the moulds.

### ACRYLIC RESIN 601.2

The fluidity of this transparent mounting resin and its very low shrinkage ensure a maximum penetration ratio in cavities. It is ideal for microelectronics, optics and microsystem applications. Compatible for conventional scanning electron microscopy (SEM) examinations.

Mono-component resin easy to dose and manipulate (no loss). Polymerisation with low temperature rise in 20 minutes in the blue light device M.M.866 + 10 minutes for the surface varnish. With no disturbing odour, it is resistant to alcohol and acids..



| Characteristics                     | Qty.                               | Ref.        |
|-------------------------------------|------------------------------------|-------------|
| Transparent Acrylic Monocomponent   | Resin 1000 ml + varnish 100 ml set | 06 00601 00 |
| Maximum exothermic temperature: 95° | Resin 1000 ml                      | 06 01601 00 |
|                                     | Varnish 100 ml                     | 06 01602 00 |



Without shrinkage

### EPOXY RESIN 603

The Resin 603 is a two-component epoxy resin without CMR substance used to achieve high quality technical metallographic mountings at room temperature. This resin is the best choice when the transparency of the coating is a requirement. The resin has zero shrinkage, excellent adhesion to all kinds of materials and a very good chemical resistance.

With an ideally adjusted viscosity, the resin 603 is used to mount metallographic specimens with complex shapes, porosities, or delicate technical coatings.

| Characteristics                       | Qty.                                 | Ref.        |
|---------------------------------------|--------------------------------------|-------------|
| Transparent Epoxy 2 liquid components | Liquid 1000 ml + hardener 500 ml set | 06 00603 00 |
| Maximum exothermic temperature: 105°  | Liquid 1000 ml                       | 06 01603 00 |
|                                       | Hardener 500 ml                      | 06 02603 00 |

### EPOXY RESIN 603.2

The Resin 603.2 is a fast-curing two-component epoxy resin without CMR substance used to make technical metallographic mountings. It must be used on materials that withstand temperatures of 140°C.

This transparent resin has zero shrinkage, excellent adhesion to all kinds of materials and very good chemical resistance.



Fast hardening

| Characteristics                       | Qty.                                 | Ref.        |
|---------------------------------------|--------------------------------------|-------------|
| Transparent Epoxy 2 liquid components | Liquid 1000 ml + hardener 500 ml set | 06 00603 20 |
| Maximum exothermic temperature: 140°  | Liquid 1000 ml                       | 06 01603 20 |
|                                       | Hardener 500 ml                      | 06 02603 20 |

## COLD MOUNTING RESINS

**METHYL-METHACRYLATE RESIN 605**

Versatile, it is adapted to the majority of common materials for the fast mounting standard sample. It is possible to change the viscosity by modifying the proportion of the mixture: liquid + powder. Resistant to the principal acids used in laboratories.

**Solvent free and CMR-free** (no Carcinogenic, Mutagenic, toxic to Reproduction suspences).

| Characteristics  | Qty.                                       | Ref.        |
|--|--|-------------|
| Green Methyl-methacrylate<br>2 components<br>(powder and liquid) | Powder 1 kg<br>+ catalyst 500 ml set       | 06 00605 00 |
|  | Catalyst 500 ml                            | 06 00615 00 |
| Maximum exothermic<br>temperature: 108°                          | Powder kit (10 kg) + catalyst (5 litres)   | 06 00605 10 |
|  | Catalyst (5 litres: pack. 2 x 2.5 litres)* | 06 00615 10 |



**CMR-free**

**POLYESTER RESIN 607**

The Resin 607 is a three-component resin based on modified polyester.

This fast curing resin adheres perfectly to metal surfaces and its mechanical characteristics make it particularly effective on very hard materials.

Its very low shrinkage allows edge examinations on metallographic samples.

It is resistant to the main acids and bases used in laboratories.

| Characteristics                          | Qty.   | Ref.        |
|--|--|-------------|
| Modified white polyester<br>3 components | Resin kit: catalyst 500 ml<br>+ hardener 250 ml + powder 750 g | 06 00607 00 |
|  | Catalyst 500 ml  | 06 00607 10 |
| Maximum exothermic<br>temperature: 122°  | Hardener 250 ml  | 06 00607 20 |
|  | Powder 750 g   | 06 00607 30 |

**METHYL-METHACRYLATE RESIN 609**

A perfectly transparent resin used for precision parts, notably those of the electrical or electronics industry. It renders the sample perfectly visible, which allows analysing precise points. It must be used with the pneumatic device M.M.808 to obtain an optimum transparency.

The methyl-methacrylate resin 609 is available in the Plastichrome version – 5 transparent colours to simplify the classification of samples.

**Solvent free and CMR-free** (no Carcinogenic, Mutagenic, toxic to Reproduction suspences).

**609**

| Characteristics   | Qty.                                  | Ref.        |
|---|---------------------------------------|-------------|
| Methyl-methacrylate<br>Transparent<br>2 components          | Powder 1 kg + catalyst 500 ml set     | 06 00609 00 |
|   | Catalyst 500 ml                       | 06 00619 00 |
| (powder + liquid)<br>Maximum exothermic<br>temperature: 99° | Powder 1 kg                           | 06 00609 20 |
|   | Powder 10 kg + catalyst 5000 ml set   | 06 00609 10 |
|   | Catalyst 5000 ml (pack. 2 x 2500 ml)* | 06 00619 10 |

**609 PLASTICHROME**

| Characteristics  | Qty.                                    | Color  | Ref.        |
|--|---|--------|-------------|
| Methyl-methacrylate<br>Transparent coloured<br>2 components<br>(powder + liquid)<br>Maximum exothermic<br>temperature: 99° | Powder 1 kg<br>+ Catalyst<br>500 ml set | BLUE   | 06 0071B 00 |
|  |   | YELLOW | 06 0071J 00 |
|  |   | ORANGE | 06 0071O 00 |
|  |   | RED    | 06 0071R 00 |
|  |   | GREEN  | 06 0071V 00 |

\* Packaging related to transport restrictions



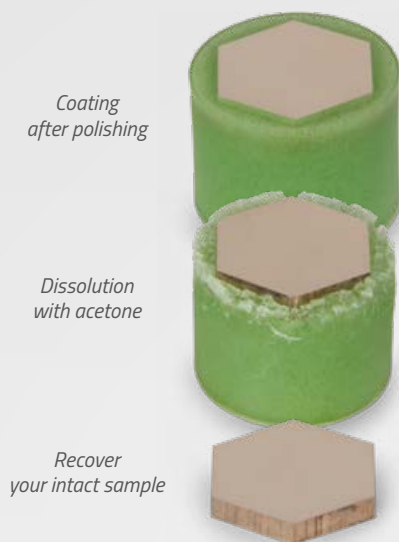
## METHYL-METHACRYLATE RESIN 665

NEW

## Cold setting resin for sample recovery.

Mounting is a step in metallographic sample preparation which enables samples to be ground and polished more ergonomically. Embedding the sample in a resin is usually irreversible and recovering the sample (if necessary) after embedding proves almost impossible.

Resin 665 is a cold mounting resin that has the unique ability to dissolve in acetone. This ability is transformed into a sustainable functionality to recover metallographic specimens after mounting. After metallographic processing of costly materials such as noble metals, it is often important from an economic and technical perspective to recover the samples from the mounting resin.



| Characteristics                      | Qty.                  | Ref.        |
|--------------------------------------|-----------------------|-------------|
| Modified green polyester             | Powder 1 kg           | 06 00665 00 |
| 2 components                         | + catalyst 500 ml set |             |
| (Powder + Liquid)                    | Catalyst 500 ml       | 06 02665 00 |
| Maximum exothermic temperature: 112° | Powder 1 kg           | 06 01665 00 |

## Advice on the use of LAM PLAN cold resins

| Material            | Resin | Characteristics   | Volumetrical shrinkage                            | T°*   | Color  | Polymerisation   |
|---------------------|-------|---|---|-------|--|--|
| Acrylic             | 601.2 | Liquid monocomponent<br>Low heating                         | Very low  | 95°C  | Transparent  | Curing < 20 min in the blue lightening device<br>+10 min for the varnish |
| Epoxy               | 603   | Without shrinkage   | Non-existent if used with pressure device M.M.808 | 105°C | Transparent  | Curing 10 hours  |
|                     | 603.2 | Fast curing<br>excellent adhesion                           | Non-existent                                      | 140°C | Transparent  | Curing 2 hours   |
| Methyl methacrylate | 605   | Versatility   | 1 %   | 108°C | Green  | Fast Curing < 10 min   |
| Modified polyester  | 607   | Hardness  | Very Low (<0,2%)                                  | 122°C | Beige  | Fast Curing < 15 min   |
| Methyl methacrylate | 609   | Excellent transparency if used with pressure device M.M.808 | 1 %   | 99°C  | Transparent<br>= colourless + 5 colours (series Plastichrome ) | Fast Curing < 10 min   |
| Methyl methacrylate | 665   | Soluble resin   | Correct   | 112°C | Green  | Fast Curing < 15 min   |

\* Peak exothermic temperatures during polymerisation for a 40 g sample of resin at 20°C

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## Procedure for cold mounting

Keep the thin samples on the slice. Mix the resin components in the indicated proportions. Mix gently to avoid creating air bubbles. Pour the resin into the mould to the desired level and allow to cure in the open air or in an M.M.808 pressure vessel to remove any bubbles or pores. To limit heating and shrinkage, fill the mould in successive layers.

| Resin | Blending proportions  |
|-------|---|
| 601.2 | 1 liquid + 1 varnish. Apply the varnish on top of the coating 20 minutes after polymerisation in the M.M.866 device |
| 603   | 2 volumns of powder for 1 volume of liquid  |
| 603.2 | 2 volumns of powder for 1 volume of liquid  |
| 605   | 2 volumns of powder for 2 volumns of liquid 1 and 1 volume of liquid 2  |
| 607   | 3 volumns of powder for 2 volume of liquid  |
| 609   | 2 volumns of powder for 1 volume of liquid  |
| 665   | 2 volumns of powder for 1 volume of liquid  |

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